UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/606,496	06/26/2003	Sanjay Gupta	END920030016	5612

7590 02/15/2006

McGuireWoods LLP
Suite 1800
1750 Tysons Boulevard
McLean, VA 22102

EXAMINER	
SETLAK, ANDREW T	
ART UNIT	**PAPER NUMBER**
2166	

DATE MAILED: 02/15/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/606,496	GUPTA, SANJAY	
	Examiner	Art Unit	
	Andrew Setlak	2166	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *26 June 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *6/26/2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *6/26/03*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claim 20 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Specifically ¶ 34 of the specification leads the examiner to believe that the applicant's usage of "a computer usable medium" is broad enough to include the non-statutory area of transmission media such as "the Internet or some other type of network".

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-5, 10-14 & 18 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent Application Publication US 2001/0018684 A1 (henceforth referred to as Mild).

Claim 1 is anticipated by Mild as follows: **A method of accessing data in a non-relational database, the method comprising the steps of: creating a master view**

having a master view index referencing the data (¶ 10); **creating a subordinate view of the master view having a subordinate view index referencing a subset of said master view index, where the subordinate view defines accessible portions of the data and the subordinate view index is linked to a subset of the master view index** (¶ 10); **and accessing the data via the subordinate view** (¶ 23).

Claim 2 is anticipated by Mild as in claim 1, **wherein the creating a master view includes defining at least one of sorted and categorized columns associated with the master view** (¶ 22).

Claim 3 is anticipated by Mild as in claim 1, **wherein the creating a subordinate view step includes defining at least one of a collapsed subordinate view and a non-collapsed subordinate view** (¶ 32).

Claim 4 is anticipated by Mild as in claim 1, **further comprising automatically managing the subordinate view** (¶ 29).

Claim 5 is anticipated by Mild as in claim 1, **wherein the accessing step includes creating an index map which links the accessible data associated with the subordinate view to the master index** (¶ 10).

Claim 10 is anticipated by art 1 as in claim 1, **wherein the data includes at least one of categorized non-hierarchical data, hierarchical data, and categorized hierarchical data** (¶ 10).

Claim 11 is anticipated by Mild as in claim 1, **wherein the master view has a master index referencing at least a portion of the hierarchical data in the non-relational database** (¶ 10-11).

Claim 12 is anticipated by Mild as in claim 1, **wherein the creating a subordinate view step includes creating a plurality of subordinate views associated with one or more master views** (¶ 10).

Claim 13 is anticipated by Mild as follows: **A method of enhancing performance when accessing hierarchical data in a non-relational database, the method comprising the steps of: creating at least one subordinate view having a subordinate index referencing a subset of a master index of at least one master view** (¶ 10, ¶ 23); **creating a subordinate view index map associated with the at least one subordinate view when accessing the hierarchical data** (¶ 22); **and accessing the at least a portion of hierarchical data by using the subordinate view index map** (¶ 23), **wherein an amount of data accessed using the at least one subordinate view is less than the amount of data when accessing the at least one master view** (¶ 22).

Claim 14 is anticipated by Mild as in claim 13, **wherein the creating at least one subordinate view includes defining at least one of sorted and categorized columns associated with the at least one master view** (¶ 22).

Claim 18 is anticipated as in claim 13, **wherein the subordinate view includes at least one of a collapsed view and a non-collapsed view and access via the collapsed view providing less data than access via a non-collapsed view** (¶ 10).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 6-9, 16-17, & 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Mild and *A Case for Dynamic View Management* (henceforth referred to as Kotidis).

Claim 6 is taught by Mild as in claim 5, However Mild fails to explicitly indicate, **further comprising caching at least one of the subordinate view and the temporary index map, wherein the caching step includes: checking whether a predetermined time period has elapsed by checking an elapsed time period counter; if elapsed, checking whether access frequency exceeds a predetermined threshold by checking an access counter for the subordinate view; and if the predetermined threshold is exceeded, checking whether the at least one of the subordinate view and the index map can be cached, if so, then caching at least one of the subordinate view and the temporary index.**

Yet Kotidis teaches these elements as follows: **further comprising caching at least one of the subordinate view and the temporary index map, wherein the caching step includes: checking whether a predetermined time period has elapsed by checking an elapsed time period counter** (Kotidis: page 391 ¶ 2); **if elapsed, checking whether access frequency exceeds a predetermined threshold by checking an access counter for the subordinate view** (Kotidis: page 404 ¶ 1, 397

¶ 3); **and if the predetermined threshold is exceeded, checking whether the at least one of the subordinate view and the index map can be cached, if so, then caching at least one of the subordinate view and the temporary index** (Kotidis: page 404 § 5.3 ¶ 1).

One of ordinary skill in the art at the time of invention would have recognized the performance gains offered by the caching and view retention policies set forth in Kotidis as applied to the non-relational database structure of Mild. One of ordinary skill in the art at the time of invention would know, as Kotidis puts it, "The ability to participate or react quickly and decisively in today's competitive marketplace is critical to the success of organizations." Thus, it would have been obvious to one of ordinary skill in the art at the time of invention to have combined the caching and aggregate view materialization techniques used by Kotidis into the methods taught by Mild.

Claim 7 is taught by the combination of Mild and Kotidis as in claim 6, **further comprising resetting one of the elapsed time period counter to start a new elapsed time period for counting access frequencies and the access counter for counting access frequencies to the temporary index map during the new elapsed time period** (Kotidis: page 397 ¶ 3).

Claim 8 is taught by the combination of Mild and Kotidis as in claims 1-7, **further comprising maintaining historical information including access frequency to the subordinate view** (Kotidis: page 397 bullet statistics).

Claim 9 is taught by the combination of Mild and art 2 as in claims 1-8, **wherein the accessing step provides one of a reduction of data transferred to a client in a**

client-server architecture, a decrease in the amount of data manipulated during the accessing step, a decrease in response time to an access request, an increased performance, and a decrease in index size (Kotidis: page 391 ¶ 2).

Claim 15 is taught by the combination of Mild and Kotidis as in claims 1-14, **further comprising maintaining historical information including access frequency to the subordinate view** (Kotidis: page 397 ¶ 3).

Claim 16 is taught by the combination of Mild and Kotidis as in claims 1-15, **further comprising caching at least one of the at least one subordinate view, the subordinate view index map and temporary index, wherein the caching step includes: checking whether a predetermined time period has elapsed by checking an elapsed time period counter** (Kotidis: page 391 ¶ 2); **and if elapsed, checking whether the access frequency exceeds a predetermined threshold by checking a access counter for the at least one subordinate view** (Kotidis: page 404 pp1, page 397 ¶ 3); **if the predetermined threshold is exceeded, checking whether the at least one subordinate view can be cached, if so, caching at least one of the at least one subordinate view, the subordinate view index map, and the temporary index** (Kotidis: page 404 § 5.3 ¶ 1).

Claim 17 is taught by the combination of Mild and Kotidis as in claims 1-16, **further including assigning priorities to one of the at least one master view and at least one subordinate view to grade performance** (Kotidis: page 405-406 § 5.4.1 ¶ 1).

Claims 19 & 20 are taught by the combination of Mild and Kotidis as applied to claims 1-18. Thus, claims 19 & 20 are rejected using the same rationale as claims 1-18.

Information Disclosure Statement

Applicants' Information Disclosure Statements, filed on 6/26/2003 have been received, entered into the record, and considered. See attached PTO-1449 forms.

Conclusion

The prior art made record of on form PTO-892 and not relied upon is considered pertinent to the applicants' disclosure.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew Setlak whose telephone number is (571) 272-4060. The examiner can normally be reached on M-F 10:00-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hosain Alam can be reached on (571) 272-3978. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Andrew Setlak
Patent Examiner
2/7/2006

Hosain Alam
Supervisory Patent Examiner